

What is claimed is:

1. An automated trading system for use in an electronic exchange system network, comprising:
a receiver interface that receives market price information for a first traded item from an exchange;
data reference logic that outputs a transaction value for the first traded item from a data structure based on price information for a second traded item related to the first traded item;
decision logic using at least a portion of the received market price information and the transaction value to generate a decision whether to submit an order for the first traded item; and
an output interface for outputting a request for market transaction for one of the first traded item and the second traded item for transmission to the exchange in response to said decision logic.
2. The automated trading system according to claim 1, wherein data reference logic receives current price information for the second traded item and uses the current price information to output the transaction value.
3. The automated trading system according to claim 2, wherein said data reference logic comprises:
memory storing the data structure, wherein the data structure maps pre-calculated transaction values of the first traded item over a range of price values of the second traded item; and
reference logic for identifying one of the pre-calculated transaction values based at least in part on a current price value for the second traded item.
4. The automated trading system according to claim 3, wherein the data structure is a two-

dimensional data structure mapping pre-calculated transaction values of the first traded item over a range of prices of the second traded item.

5. The automated trading system according to claim 3, wherein the data structure is an n-dimensional data structure, where n is 3 or more.
6. The automated trading system according to claim 3, wherein the data structure is a look-up table.
7. The automated trading system according to claim 3, wherein the data structure comprises a linked list.
8. The automated trading system according to claim 3, wherein the data structure comprises a tree structure.
9. The automated trading system according to claim 1, said decision logic compares at least a portion of the received market price information to the transaction value when automated trading in the first item first becomes enabled.
10. The automated trading system according to claim 1, further comprising safety check logic, responsive to said decision logic, to prevent transmission of a request for market transaction for the first traded item to the exchange if the request does not meet a predetermined criterion.
11. The automated trading system according to claim 10, where the predetermined criterion is maximum trade quantity for the first traded item.
12. The automated trading system according to claim 10, wherein said predetermined criterion is a maximum number of market transaction attempts within a predetermined period of time and said decision logic compares at least a portion of the received market price information to the transaction value when the maximum number of attempts is increased.

13. The automated trading system according to claim 1, where the receiver interface receives the market price information for the first traded item indirectly from the exchange via an exchange interface.
14. The automated trading system according to claim 1, wherein the decision logic compares the transactional value to at least a portion of the received market price information.
15. The automated trading system according to claim 14, wherein the transaction value is a minimum sell price for the first traded item, and the market price information includes a market bid price for the first traded item.
16. The automated trading system according to claim 14, wherein the transaction value is a maximum buy price for the first traded item, and the market price information includes a market ask price for the first traded item.
17. The automated trading system according to claim 14, wherein the transactional value is a theoretical value of the first traded item based on a mathematical model.
18. The automated trading system according to claim 14, wherein the price information for the second traded item corresponds to a current market price for the second traded item and said decision logic generates a comparison when the current market price for the second traded item changes.
19. The automated trading system according to claim 14, wherein said price information for the second traded item corresponds to a current market price for the second traded item and said decision logic generates a comparison when the price information for the first traded item changes.
20. The automated trading system according to claim 1, wherein a backend computer includes said receiver interface, said data reference logic, said decision logic, and

said output interface and said first backend computer operates using a Windows-based operating system.

21. The automated trading system according to claim 1, wherein a backend computer includes said receiver interface, said data reference logic, said decision logic, and said output interface and said first backend computer operates using a text-based operating system.
22. The automated trading system according to claim 21, further comprising a trader station separate from said backend computer, said trader station coupled to said backend computer through a communication link, said trader station including a graphic user interface to enable a trader to monitor the operation of said backend computer.
23. The automated trading system according to claim 22, wherein said trader station transmits updated data reference information for updating said data reference logic to said backend computer over the communication link.
24. The automated trading system according to claim 23, wherein said decision logic compares at least a portion of the received market price information to the transaction value when the data reference information is updated.
25. The automated trading system according to claim 23, wherein said trader station calculates the updated data reference information and the backend computer stores the calculated updated data reference information.
26. The automated trading system according to claim 22, wherein said backend computer is located substantially closer than said trader station to the exchange that transmits the market price information for the first traded item.
27. An automated trading method for use in an electronic exchange system network, comprising:

receiving market price information for a first traded item;
identifying a desired price for the first traded item in a look-up table based on price information for a second traded item related to the first traded item;
comparing the received market price information for the first traded item to the desired price for the first traded item; and
generating an order for one of the first traded item and the second traded item based on the comparison of the received market price information to the desired price.

28. The automated trading method according to claim 27, wherein said first traded item corresponds to an option and the second traded item corresponds to a security underlying the option.

29. The automated trading method according to claim 27, wherein said step of identifying a desired price, comprises:

- (a) receiving current market price information for said second traded item;
- (b) using said current market price information for said second traded item to index a desired price for said first traded item in said look-up table.

30. The automated trading method according to claim 27, wherein said look-up table comprises a two-dimensional table providing desired price values indexed by item traded and price of the second traded item.

31. The automated trading method according to claim 27, wherein said look-up table comprises an n-dimensional table, where n is 3 or more.

32. An automated method of trading in an electronic exchange system network, comprising the steps of:

receiving a current market price for an option from an electronic exchange;
comparing the current market price for the option with a desired price for the option, said desired price derived from current price information for an underlying security for the option; and
submitting an order for the option to the electronic exchange within 1

OPTIONAL METHOD

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millisecond of the step of receiving the current market price.

33. The automated trading method according to claim 32, wherein said step of submitting an order is performed within 600 microseconds of the step of receiving the current market price.

34. The automated trading method according to claim 33, wherein said step of submitting an order is performed within 380 microseconds of the step of receiving the current market price.

35. The automated trading method according to claim 34, wherein said step of submitting an order is performed within 250 microseconds of the step of receiving the current market price.

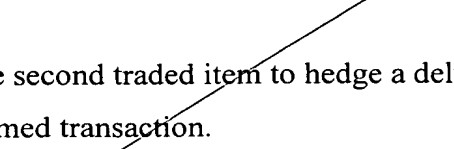
36. An automated trading method for use in an electronic exchange system network, comprising the steps of:
receiving market information for a first traded item;
identifying a transaction value for the first traded item in a look-up table based on at least one of (a) price information for a second traded item related to the first traded item and (b) received market information for the first traded item; and
using at least the identified transaction value in determining whether to submit an order for the first traded item.

37. The automated trading method according to claim 36, wherein the identified transaction value is a volatility value corresponding to the first traded item.

38. The automated trading method according to claim 36, wherein the identified transaction value is a maximum buy value for the first traded item.

39. The automated trading method according to claim 36, wherein the identified transaction value is a minimum sell value for the first traded item.

40. The automated trading method according to claim 36, wherein the identified transaction value is a theoretical value for the first traded item generated based on a mathematical model.
41. The automated trading method according to claim 36, wherein the look-up table comprises a linked list.
42. The automated trading method according to claim 36, wherein a backend computer performs the receiving, identifying, and using steps on a Windows-based operating system.
43. The automated trading method according to claim 36, wherein a backend computer performs the receiving, identifying, and using steps on a text-based platform.
44. The automated trading method according to claim 36, wherein:
- (a) a backend computer performs the receiving, identifying, and using steps,
 - (b) a trader station separate from said backend computer calculates transaction values for storage in the look-up table and transmits the calculated transaction values to the backend computer, and
 - (c) the backend computer stores the calculated transaction values in the look-up table.
45. The automated trading method according to claim 44, further comprising the steps of checking values stored in the look-up table of the backend computer with values stored in a look-up table in said trader station to confirm the accuracy of the look-up table stored in the backend computer.
46. The automated trading method according to claim 36, further comprising the steps of:
- (a) submitting an order for the first traded item;
 - (b) receiving confirmation of a transaction from an exchange responsive to the

- order submitted; and
- (c) submitting an order for the second traded item to hedge a delta risk associated with the confirmed transaction.
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